

# Shipping News and Reports From All Parts of the World

## Development of Motor Ship Finds U. S. Merchant Fleet Far Behind

**Revolution in Motive Power Makes Rapid Progress in Foreign Maritime Countries; Britain Doubles American Tonnage; Oil Fuel Replacing Coal**

By David S. Kennedy

When the Bethlehem Steel Corporation awarded a twenty-year contract for the transportation of Chilean ore to the United States to a Swedish steamship line, which will build in German yards the world's largest two motor ships for that purpose, the incident emphasized the lack of progress of American shipping in this most modern development of motive power.

Handicapped by higher costs for construction, wages, subsistence and overhead, the American merchant marine has not been able to keep abreast of the times. Unable to compete successfully for current business, American ships have a still more uncertain outlook for the future.

Motive power, the heart of shipping, is now undergoing a change as important as that from wood to steel, from the paddle wheel to the propeller, from sail to steam. The stakes of competition on the seas always more intense than on land, forces the leading maritime nations to grasp every improvement that means economy in operation, speed, or facility in handling cargoes.

Within the last ten years the art of shipbuilding has advanced remarkably, particularly in types of engines. There is now a general trend toward the use of oil instead of coal for fuel. The result has been a notable gain in efficiency, but the significance of this movement is slight compared with the increase in the number of motor ships propelled by internal combustion engines.

**Oil Replaces Coal**

The coal shortage and high prices of the last two years, due to mine strikes in Great Britain and the United States, make it possible for the oil burner to save about one-half of the fuel bill that would be paid for coal.

Furthermore, the motorship is able to operate at about one-third of the fuel cost of the oil-burning steamer. Even before the motorship has definitely established its supremacy over the oil steamer, which is not expected for several years, developments in the internal combustion engine promise still greater savings. The inventions of Spierry and Kinsman, which are not yet in commercial basis, make it probable that the cost of fuel for operation at sea will be reduced still further.

A feature of ocean transportation in the last year, when shipping has undergone the worst depression in recent history, has been the fact that all motorships have continued in operation, while from 10 to 25 per cent of other merchant ships have been lying idle.

The United States possesses some advantage in that 80 per cent of our vessels are oil-burners, compared with 15 per cent of the British fleet, but this is offset by other factors included in the higher cost of operation. In this connection it may be noted that Great Britain has double the tonnage of motorships and is adding to it constantly, while American steamship lines are making comparatively slow progress.

Sweden, Denmark and Germany are also increasing their motorship fleets as rapidly as possible. One Swedish line disposed of its sailers, it owned a few sailers, and since then has bought only Diesel-engined vessels, all of which have operated successfully through the depression.

**Motorships Show Economy**

After ten years of experiment, the motorship has established itself as the best type of cargo carrier up to fourteen knots' speed and 20,000 tons' cargo capacity. It will have to be brought to the point where it will replace the steamer as the large, fast passenger liner.

It is evident that merchant shipping is on the threshold of changes that will make it necessary to discard existing types of ships, or to re-engineer them, as fast as they reach the age for retirement or reconditioning. When we talk of establishing the American merchant marine we must think in terms of the next ten years rather than of the existing three years now owned by the Shipping Board or private steamship lines.

An indication of the economies of the motorship over the steamer was

given recently in the maiden voyage of the Californian, owned by the American-Hawaiian Steamship Company. This vessel operated over 21,000 miles at a fuel cost of approximately \$165 a day, compared with \$500 a day for a similar sized oil-burning steamer.

**Britain Outstrips U. S.**

A few facts on the present status of motorships throughout the world show definitely that the American merchant marine is falling behind in the adoption of this economical form of motive power.

Great Britain now possesses 71 motorships of 316,616 gross tons, compared with 70 motorships of 146,152 gross tons owned in the United States. While the number of ships of both nations is about the same, the British average more than twice as large. The total motorships of the world aggregate 1,639 of 1,511,000 gross tons, not including 760,000 tons estimated to be owned in Russia. Of this volume more than half, or 149 of 585,000 gross tons, were built during the past two years.

A great development has also taken place in the use of liquid fuel in vessels.

In 1914 there were 264 steamers of 1,310,000 tons fitted to burn fuel oil, while on June 30, 1922, there were 2,792 such vessels of 14,838,000 tons, or about eleven times the total in 1914.

The proportion of motorships increased from 297 of 234,287 tons in 1914 to 1,639 of 1,511,000 this year. The relative standing of the various types of motive power throughout the world for the two years is shown in the following table, calculated in gross tons:

	1914	1922	Percent.
Fall power only	7,550	4,700	6.7
Motors	6,47	2,29	2.2
All burners	3,42	3,21	1.8
Coupled	8,96	10,61	10.6

The output of vessels in 1922, according to Lloyd's Register, was as follows:

	Gross Tons	Tons
Sleekships	1,069	5,687,725
Motorships	1,069	1,639,000
All	173	67,842

Motorships launched last year were divided among the principal nations as follows:

Number	Tons
United Kingdom	28
United States	11
Germany	7
Holland	3
Denmark	45,112

American Owners Handicapped

In spite of the severe shipping depression, motor ship tonnage (fully-powered ships of 2,000 gross tons or over) increased 37 per cent in the year ended June 30, 1922, as against a gain of only 4 per cent for steam tonnage, according to the following:

She will be an oil instead of coal burner, with two Diesel auxiliaries for the lighting plant.

A complete new electric lighting system will be installed.

Every stateroom will have connections with the radio station, so that every passenger may talk with his brother, Ralph Gibbs.

The Shipping Board has not yet de-

termined what disposition will be made of the Leviathan, but unless present plans are changed she will be assigned to the United States Lines for operation between New York, Southampton and Cuxhaven, near Bremen.

Approximately 3,000 men are working daily on the Leviathan in the effort to get her ready for trans-Atlantic service by summer of next year.

The ship, of 55,000 gross tons, is the largest under the American flag, and is only 1,000 tons smaller than the Majestic.

The Leviathan steams from Hampton Roads next year she will be

one of the finest vessels abroad, having the most modern equipment and luxurious accommodations for passengers and crew. Among the most important new features are the following:

Cooking in the restaurant will be done entirely by electricity.

The reconditioning of the Leviathan is costing the Shipping Board approximately \$6,550,000. The Newport News Shipbuilding and Dry Dock Company received the award of the contract on a bid of \$6,100,000, while Gimbel Bros. secured the steward's equipment for \$450,000.

The task of refitting the giant liner is supervised by Gibbs Bros., consulting engineers, of Philadelphia, who includes W. Gibbs, formerly chief of construction for the International Mercantile Marine Company, and his brother, Ralph Gibbs.

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